13.0 TECHNICAL AREA 74 TRACT

13.1 Affected Environment

13.1.1 Land Use

Technical Area (TA) 74 represents a large area of LANL buffer lands, consisting of approximately 2,715 acres (1,100 hectares) (DOE 1998b). The tract is located east of the Los Alamos townsite and below the mesa upon which the townsite is built. The northern half of the site is dominated by lower Bayo Canyon; the southern half includes much of Pueblo Canyon.

U.S. Forest Service (USFS) property borders the tract to the north. State Road 502 forms the southern border of the tract and provides the primary vehicle access. State Road 502 also serves to separate TA 74 from the northeast edge of the White Rock Y Tract and the northwest edge of the Bandelier National Monument (BNM). Pueblo of San Ildefonso lands lie to the east, and the Airport Tract is to the west (see Figure 13.1.1-1, Technical Area 74 Tract Layout). Access to the tract is currently gated and limited to Federal, State, and local government personnel on official business. However, access by others may be coordinated on a case-by-case basis. Although not subject to Los Alamos County land use controls, the tract is zoned by the County as Federal lands for planning purposes (LAC 1998).

The TA 74 Tract is isolated from LANL operations and contains numerous archaeological sites and sensitive wildlife habitat (LANL 1990). The site is heavily forested with ponderosa pine and pinyon-juniper woodlands (DOE 1999c).

Existing uses at the tract include activities associated with the State highway maintenance facility, which includes two buildings, and the water wells and tanks present at the site. Adjacent land uses includes the Bayo Wastewater Treatment Plant located in the west-central portion of the tract, land practices of the Pueblo of San Ildefonso to the east, and ongoing airport activities to the west. Land use directly to the south and southwest includes the use and maintenance of State Road 502 and the White Rock Y intersection of State Road 502 and State Road 4. Directly to the southeast, land use is dominated by tourism and National Park Service activities at BNM. Land uses to the north on USFS lands include hiking, horseback riding, climbing, bird watching,

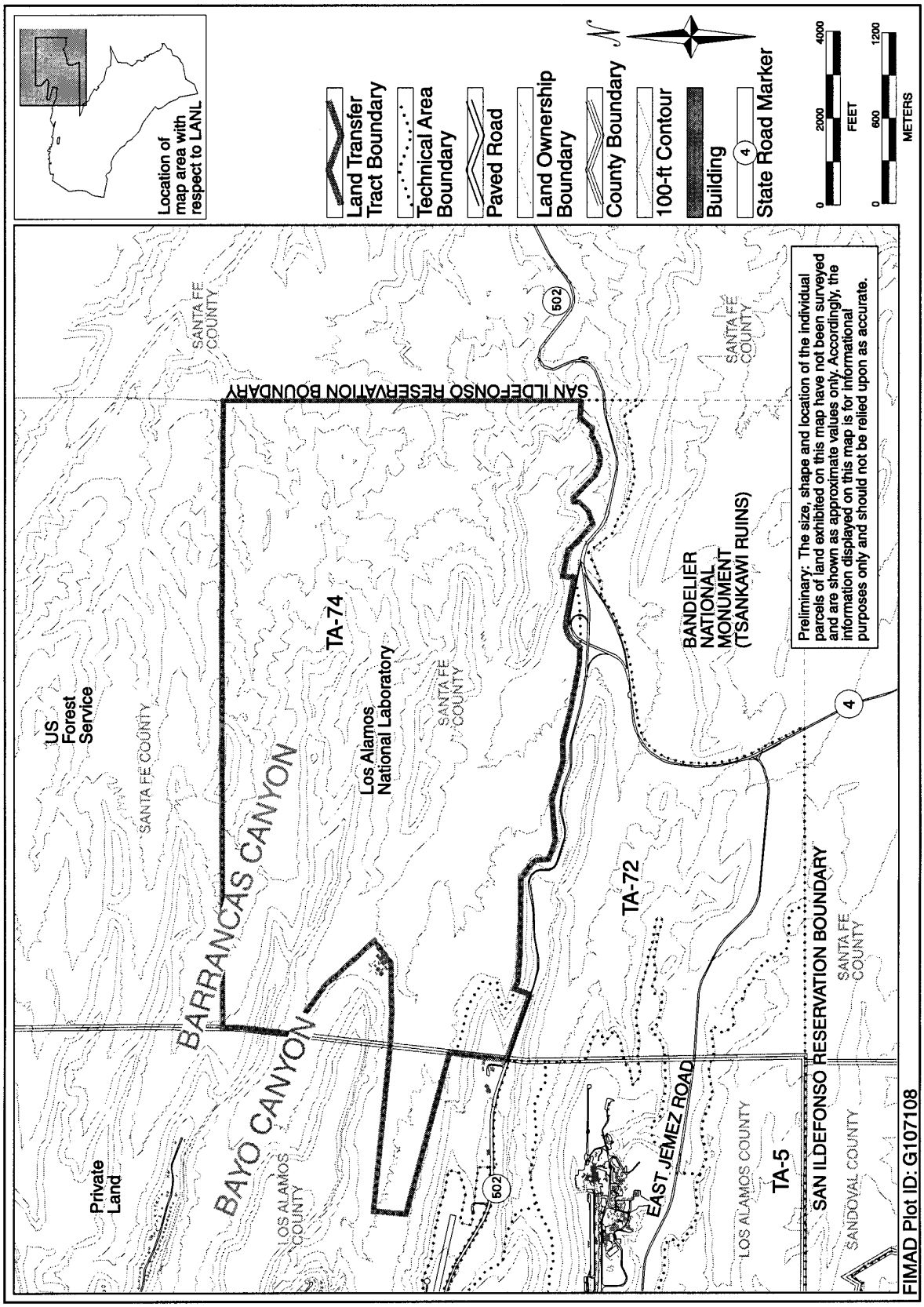

Figure 13.1.1-1. Technical Area 74 Tract Layout.

and forest management activities. The road into the tract and several unpaved roads within the tract serve as fire-break roads for the USFS and provide access to adjacent land, including the Bayo Wastewater Treatment Plant.

There are three well-established trails that cross the tract (see Figure 3.2.1-2 in Chapter 3). The Otowi Mesa Trail crosses between the northwest corner of the tract and the northwest side of the tract. The Bayo Canyon Trail enters the tract from the northwest and continues in a southeasterly direction to its terminus within the TA 74 Tract. The Camp Hamilton Trail trends roughly south and north along the western edge of the tract (LANL 1998c). Although access via the gated main road is limited, access is available to the general public for recreational purposes (hiking, horseback riding, climbing) via these trails.

Figure 13.1.1-2 shows the environmental media monitoring stations located on and near the subject land tract.

13.1.1.1 Environmental Restoration

The TA 74 Tract has four potential release sites (PRSs): one surface unit, one subsurface unit, and two outfalls. Three PRSs are located on a mesa point at the southwest corner of the tract, near the Small Business Center Annex (on East Gate Drive). The fourth PRS, a former disposal area for construction debris, is situated on the canyon below this mesa. All four PRSs have been characterized, and remediation has been performed. Further cleanup is not likely to be necessary. The tract also contains three DOE-owned structures (a water tower, water tank, and a well) that are part of the County water supply system.

The TA 74 Tract also is traversed by Pueblo and Bayo Canyons, both of which may contain residual contamination from past LANL operations. Characterization performed to date indicates the presence of several radioactive isotopes in stream channel sediments. Although additional sampling may be performed, sampling conducted to date indicates that existing levels of contamination in the canyon systems are orders of magnitude lower than levels that would elicit health concerns.

Figure 13.1.1.1-1 shows areas with potential contamination issues (PCIs) within this tract, as well as areas with no known contamination. The eastern half of the tract from Barranca Mesa to the White Rock Y Tract is thought to have no known contamination issues, although much of the tract has not yet been characterized. The western half of the tract is the site of dispersed plutonium in sediments. PCI acreage is estimated to total 1,150 acres (465 hectares), about 40 percent of the tract.

13.1.2 Transportation

The TA 74 Tract is adjacent to the White Rock Y Tract, which incorporates the alignments and intersections of State Road 502 and State Road 4 (see Figure 13.1.1-1). Table 13.1.2-1 shows the geometry, capacity, 1996 traffic volumes, and 1996 and 2018 levels of service (LOSs) for these roadways. The annual traffic growth rate used at this location was 2.29 percent according to the New Mexico State Highway and Transportation Department (NMSH&TD), Transportation Planning Division (NMSH&TD 1997).

The traffic counts to conduct this analysis are the same as those used for the White Rock Y Tract, discussed in Chapter 12, Section 12.1.2.

As shown in Table 13.1.2-1, the LOS for both State Road 4 and East Jemez Road is expected to degrade from LOS E (maximum capacity) to LOS F (traffic jam conditions) by the year 2018. Although State Road 502 operates at LOS B near the White Rock Y under current conditions, it is likely to be at or over capacity in the two-lane section that climbs the mesa.

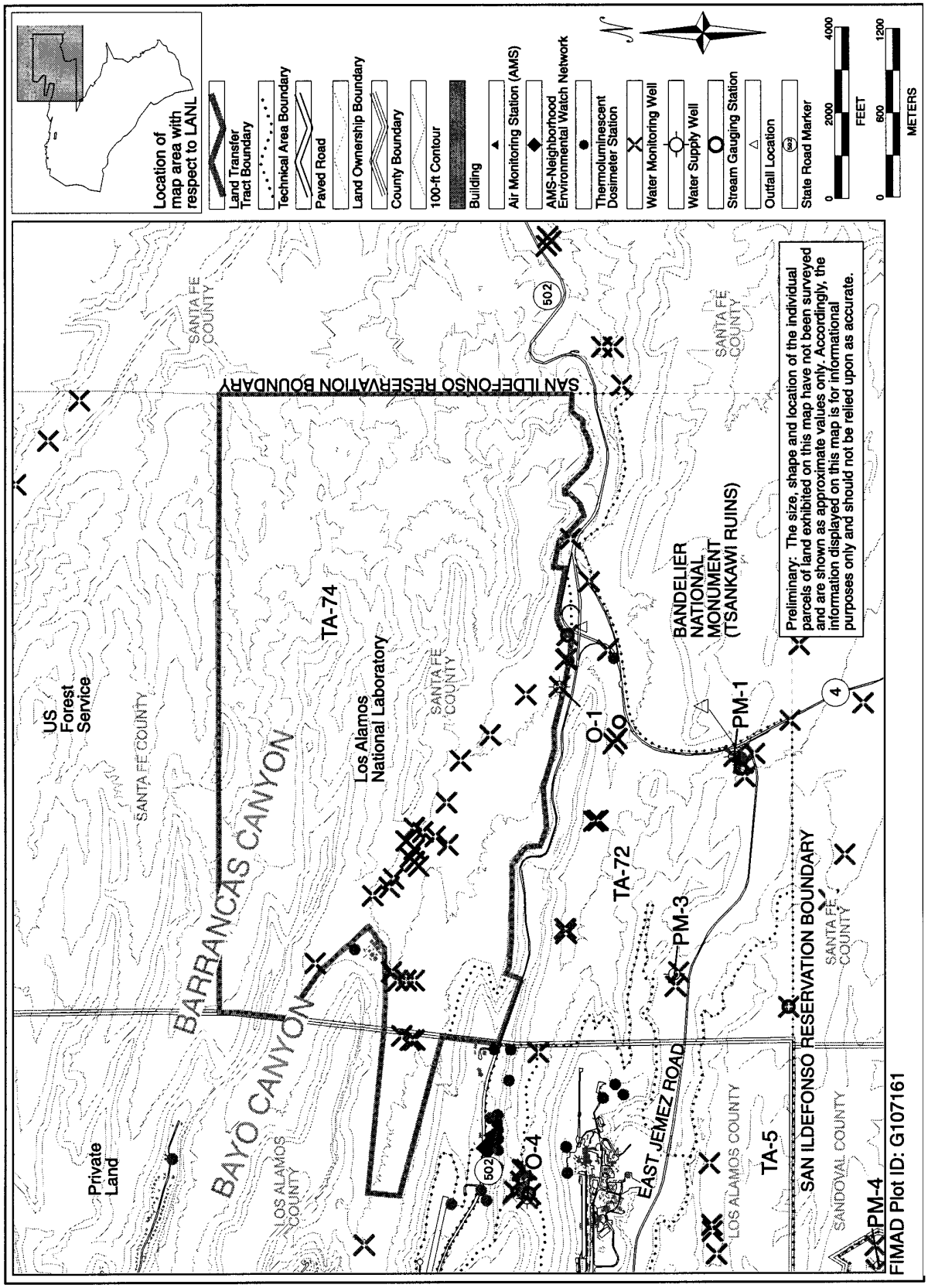

Figure 13.1.1-2. Technical Area 74 Tract Monitoring Stations and Outfall Locations.

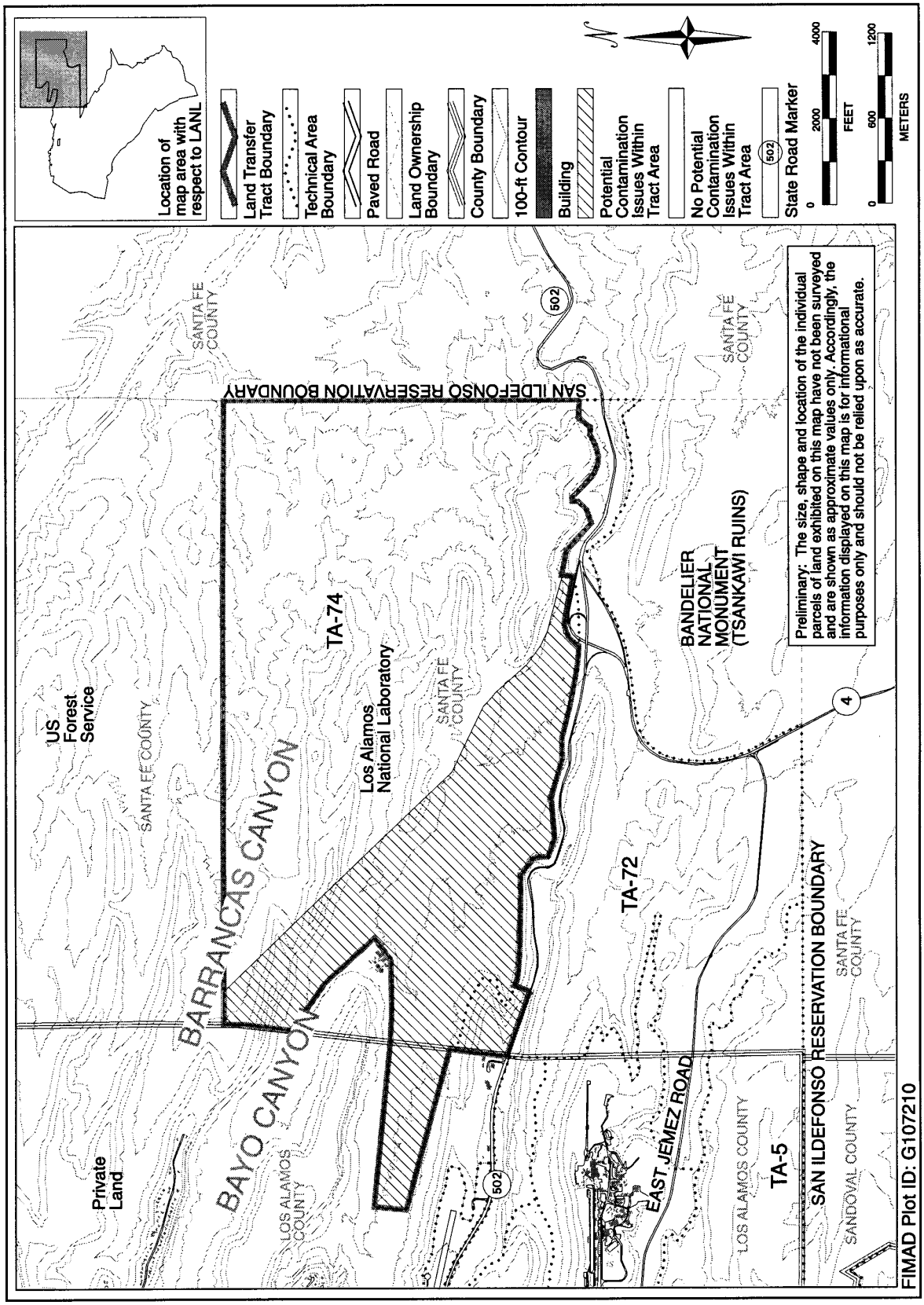

Figure 13.1.1.1-1. Technical Area 74 Tract Potential Contamination Issue Areas.

Table 13.1.2-1. Traffic Volume Estimates

LOCATION	NUMBER OF LANES	CURRENT CAPACITY (pcph)	1996 PEAK HOUR TRAFFIC VOLUMES	1996 LEVEL OF SERVICE	2018 LEVEL OF SERVICE
State Road 502	2 EB/3 WB	3,100 EB/4,650 WB	1,805	B	C
State Road 4	2	2,200	1,570	E	F

Notes: pcph = passenger cars per hour, EB = eastbound, WB = westbound

13.1.3 Infrastructure

Figure 13.1.3-1 shows the location of roads and utility lines on the TA 74 Tract. Developments on this tract include water wells, a water tank, and a State highway maintenance facility. Several dirt roads and trails traverse the tract. Electric power lines cross the tract boundaries on the west end of the tract. Natural gas and sewage lines are not present on the tract.

A new wastewater treatment facility has been proposed to replace the aging Bayo Wastewater Treatment Plant (DOE 1999c). The proposed plant would accommodate future growth and meet stricter water discharge compliance regulations and would be built close to the existing plant. Once the new facility was completed, the existing plant would be abandoned. While the proposed plant installation is independent of the decision to convey or transfer the TA 74 Tract, the increased effluent from the new plant may have impacts on this tract.

13.1.4 Noise

TA 74 is the largest of the land tracts under consideration for transfer. Ambient noises exist only along the southern edge of the tract, which parallels State Road 502 at distances varying from zero to several hundred feet. Ambient noise levels along this southern edge are estimated at 60 to 90 decibels, A-weighted (dBA). However, for the remaining 90 percent-plus of the tract, ambient noise levels are likely in the range of 10 to 20 dBA (largely undisturbed).

13.1.5 Visual Resources

The TA 74 Tract includes areas of Pueblo Canyon and associated side slope areas toward the north. The site is fairly undisturbed, and the scenery is visually interesting. There are several unpaved roads and trails within the site, as well as water wells and road maintenance facilities. State Road 502 runs along the southern boundary of the tract. There are good views into the site from State Road 502 and State Road 4.

The TA 74 Tract is located directly across State Road 4 from the Tsankawi unit of BNM and is well within the viewshed of Tsankawi mesa. Visitors are attracted to the Tsankawi unit because of its solitude, peace and tranquillity, and the opportunity to explore the archeological resources in such a setting. The view from Tsankawi mesa is breathtaking and encompasses most of the area slated for transfer. This tract was analyzed by assigning two rating units to the tract based on the two characteristic landforms: the side slope area roughly on the north side, Rating Unit 1, and the lowland area along Pueblo Canyon, Rating Unit 2.

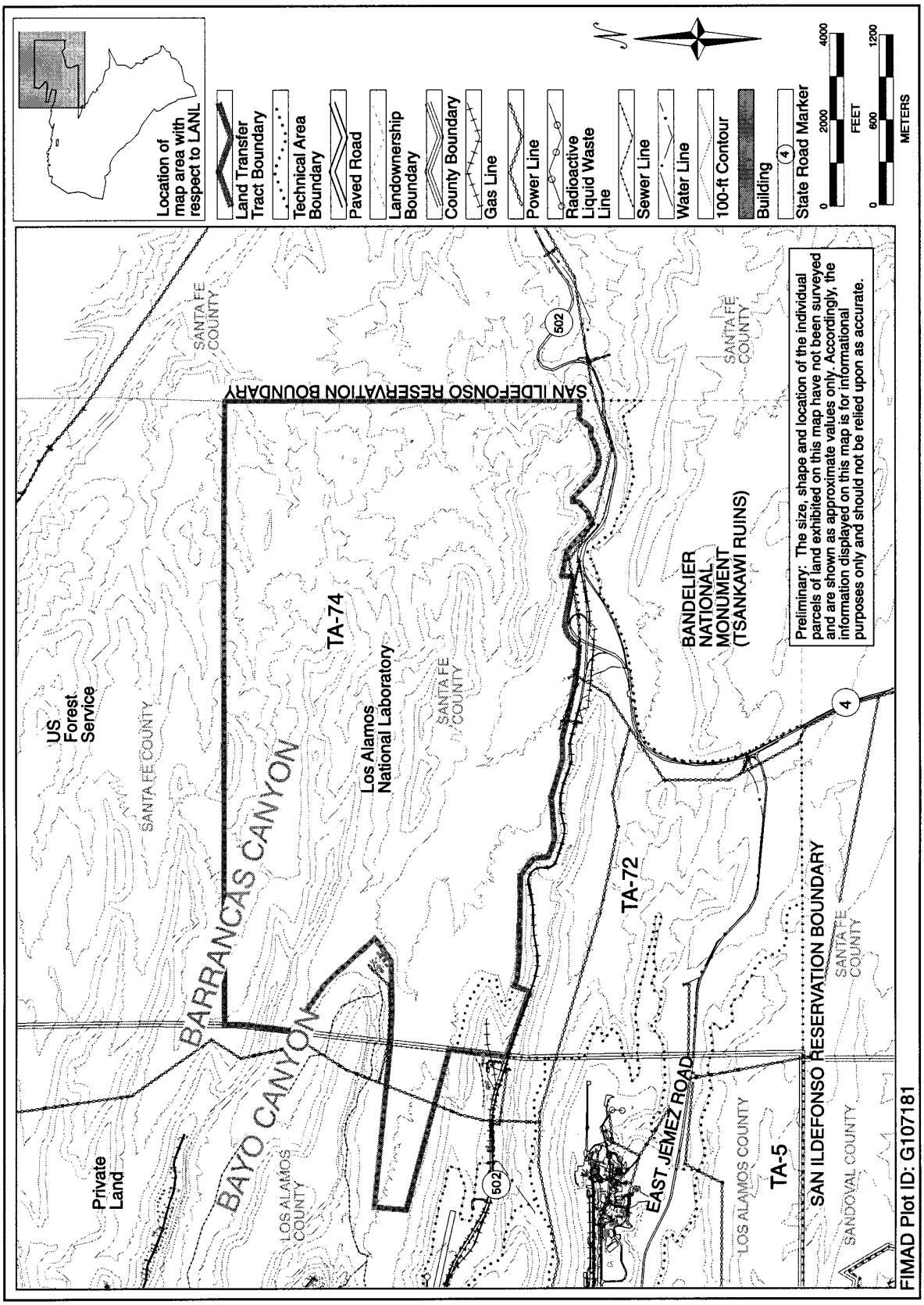

Figure 13.1.3-1. Technical Area 74 Tract Utilities and Infrastructure.

Three components were analyzed for Rating Unit 1. Scenic quality was determined to be "A" due the above average scenic character of the landform combined with subtle manmade modifications. The distance zone was designated as "foreground/middle-ground" due to the proximity of the unit to State Road 502, a major viewing point. The sensitivity level was considered to be "high" due to public interest and high visibility from nearby viewpoints.

The combination of these components using the Inventory Class Matrix results in a Scenic Class of II for Rating Unit 1.

Three components were analyzed for Rating Unit 2. Scenic quality was determined to be "A" primarily due to interesting and somewhat unique vegetation and landforms within and adjacent to the unit and subtle manmade modifications. The distance zone was determined to be "foreground/middle-ground" because of the proximity to viewpoints along State Road 502. The sensitivity level was determined to be "high" due to the high visibility of the site from viewpoints on State Road 502.

The combination of these components using the Inventory Class Matrix, result in a Scenic Class of II for Rating Unit 2. Both units within the tract are designated as Scenic Class II, indicating visual resources with high public value.

13.1.6 Socioeconomics

The most meaningful economic region of influence (ROI) for all of the tracts is the regional setting described in Chapter 3 of this CT EIS. Labor and housing markets extend well beyond any of the tract boundaries affected by the proposed land transfer.

The TA 74 Tract is largely unimproved and currently accommodates water wells, a water tank, and a highway maintenance facility. There is little employment associated with this tract.

13.1.7 Ecological Resources

Vegetation communities present with the TA 74 Tract are basically ponderosa pine forest; pinyon-juniper woodland; and open shrub, grassland, and wildflower areas. Maintained dirt roads are the primary development within the tract. Pueblo, Bayo, and Los Alamos Canyons cross this tract. An ephemeral stream is associated with each canyon. Floodplains within the TA 74 Tract are not well defined. Wetland areas are present downstream of the Bayo Wastewater Treatment Plant. See Appendix D for further description of the wetlands and floodplains. Flora and fauna are characteristic of the region. Suitable habitat is present for the Mexican spotted owl, American peregrine falcon, and bald eagle. Los Alamos Canyon and Pueblo Canyon areas of environmental interest (AEIs) are defined within this land tract for the Mexican spotted owl and American peregrine falcon. Noise levels within TA 74 are associated with vehicular traffic on State Road 4 and State Road 502, and with casual recreational use. Current lighting in the tract is associated with vehicles and distant residential and commercial facilities.

13.1.8 Cultural Resources

TA 74 was used from the Archaic period through the Nuclear Energy period. The tract was part of the Ramon Vigil Spanish land grant. The ROI for this tract includes the land tract itself, plus nearby cultural resources located off the tract. For this tract, the nearby resources are located on LANL, BNM, Santa Fe National Forest, and San Ildefonso Pueblo lands.

One hundred percent of the TA 74 Tract has been inventoried for historic and prehistoric cultural resources. Survey results indicate that there are 100 cultural sites within the tract, 97 of which are prehistoric and 3 of which are historic. Of the prehistoric sites, 76 have been evaluated as eligible to the National Register of Historic Places (NRHP)

and 21 as potentially eligible for listing on the NRHP. Of the three historic sites, two are potentially eligible, and the other has been determined not eligible. There are no buildings present on the TA 74 Tract. There is a very high potential for unidentified resources, including subsurface archaeological deposits and unrecorded burials.

Formal consultations to identify traditional cultural property (TCP) resources have not been conducted. There is a very high probability that TCPs will be identified during further consultations with Native American and Hispanic groups regarding the traditional uses of this tract. The Pueblo of San Ildefonso has indicated, in general terms, that TCPs are present on this tract.

Additional information on the cultural resources of the TA 74 Tract is presented in Appendix E of this CT EIS.

13.1.9 Geology and Soils

The TA 74 Tract is heavily forested and is susceptible to wildfires. There are minor north-south treading faults visible in the north east corner of the tract, and the existing water wells and tanks are susceptible to a greater than magnitude 7 seismic event as measured on the Richter scale.

13.1.10 Water Resources

Figure 13.1.1-1 shows the location of the TA 74 Tract. The tract is transected by Pueblo and Bayo Canyons. Both canyons are natural ephemeral streams in the vicinity of the tract; however, Pueblo Canyon receives treated sanitary effluent from the County's Bayo Wastewater Treatment Plant. This effluent-supported reach extends to the confluence with Los Alamos Canyon. There is one known spring, Hamilton Bend Spring, that does not flow consistently. The U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) and LANL identify wetlands in this tract. Assessment of these wetlands is included in Appendix D.

There is one stream gage and a surface water monitoring station within the TA 74 Tract. There is one regional aquifer supply well and one regional aquifer test well within the tract. There is one National Pollutant Discharge Elimination System (NPDES)-permitted outfall associated with the supply well.

Portions of the TA 74 Tract associated with the canyon bottoms lie within the 100-year floodplain. Floodplain assessments are included in Appendix D.

13.1.11 Air Resources

TA 74 is the largest of the land tracts under consideration for disposition. Air quality at the tract is high. Neither hazardous nor radioactive air pollutant sources exist at the tract. Small amounts of hydrocarbon-generated ozone and carbon dioxide are emitted by vehicles passing through the southern edge of the tract on State Road 502; but no criteria pollutants are emitted from anywhere else on this large tract of land.

The tract is part of New Mexico Region 3, an attainment area that meets National Ambient Air Quality Standards (NAAQS) for criteria pollutants. Analyses performed for the LANL SWEIS estimate that concentrations of chemical air pollutants will not exceed health-based standards for any point beyond the LANL boundary (DOE 1999c, Chapter 5), and no adverse human health effects are expected. From this information, we can extrapolate that the same conclusion can be applied to TA 74. Estimates for this location indicate doses from radioactive emissions at LANL range from 2 millirem at its western edge to less than 1 millirem per year, or less than 10 percent of the EPA standard, for most of the rest of the tract.

13.1.11.1 Global Climate Change

With the exception of the highway maintenance facility, there are no structures or other stationary sources of greenhouse gases located on this tract. Accordingly, emissions of greenhouse gases are small.

13.1.12 Human Health

13.1.12.1 The Radiological Environment for the TA 74 Tract

The TA 74 Tract is the second most remote of the 10 land tracts. It is the second farthest from LANL and would be less affected by LANL radioactive air emissions than many of the other tracts. Radiation doses to members of the public who currently use this tract would be much less than that to the LANL offsite maximally exposed individual (MEI) (an effective dose equivalent [EDE] of 1.93 millirem) and would not even approach the regulatory limit of 10 millirem per year. Background radiation would be the same as that given for any individual in the Los Alamos townsite area (an EDE of 360 millirem plus 53 millirem for medical and dental).

The major consideration on this tract is that many of the sediments on the southwest corner are contaminated with plutonium. A risk analysis is being prepared to address the human health risk for these sediments by the LANL Environmental Restoration (ER) Project. This information is not available currently.

13.1.12.2 The Nonradiological Environment for the TA 74 Tract

Exposures to nonradiological contaminants via an airborne pathway in the LANL vicinity have already been shown not to be significant for the affected environment (DOE 1999c). No PRSs or other known sources of nonradiological contamination exist for this tract. Therefore, no additional nonradiological exposures would be expected.

13.1.12.3 Facility Accidents

Chemical Accidents

The LANL SWEIS posits six chemical accidents, as discussed in Chapter 4, Section 4.1.12 of this CT EIS. For all postulated accidents, chemical concentrations in the air plume released by the potential accidents would be below both Emergency Response Planning Guideline (ERPG)-3 (life-threatening) and ERPG-2 (serious health effects) by the time any air plume reaches TA 74, even under adverse weather dispersion conditions. Accordingly, chemical accidents have no estimated public consequences at the tract.

Radiological Accidents

There are 13 credible radiological accident scenarios postulated in the LANL SWEIS, as discussed in Chapter 4, Section 4.1.12 in this CT EIS. Using data from the LANL SWEIS, doses to the MEI at TA 74 have been estimated for each of these, as shown in Table 13.1.12.3-1.

Because there are no residents and few public workers at the tract, estimated tract collective dose and estimated excess latent cancer fatality (LCF) are both zero.

Natural Event Accidents

There are five natural event accident scenarios postulated in the LANL SWEIS: four earthquakes and one wildfire. The most severe postulated earthquake (accident SITE-03B) has an estimated frequency of 3×10^{-5} per year, or once every 330,000 years. The postulated earthquake would release chemicals from a number of facilities,

Table 13.1.12.3-1. MEI Doses for the TA 74 Tract Resulting from Hypothetical Accidents at LANL Facilities

ACCIDENT SCENARIO	ACCIDENT LOCATION	FACILITY	FREQUENCY PER YEAR	MEI DOSE (mrem)	ACCIDENT DESCRIPTION
RAD-01	54-38	RANT	1.6×10^{-3}	38	Fire in the outdoor container storage area
RAD-02	03-29	CMR	1.5×10^{-6}	2,600	Natural gas pipeline failure
RAD-03	18-116	Kiva #3	4.3×10^{-6}	29	Power excursion at the Godiva-IV fast-burst reactor
RAD-05	21-209	TSTA	9.1×10^{-6}	1	Aircraft crash
RAD-07	50-69	WCRR	3.0×10^{-4}	40	Fire in the outdoor container storage area
RAD-08	54-230	TWISP	4.3×10^{-6}	100	Aircraft crash
RAD-09A	54-226	TWISP	4.9×10^{-1}	1	Puncture or drop of average-content drum of transuranic waste
RAD-09B	54-226	TWISP	4.9×10^{-3}	66	Puncture or drop of high-content drum of transuranic waste
RAD-12	16-411	--	1.5×10^{-6}	1,000	Seismic-initiated explosion of a plutonium-containing assembly
RAD-13	18-116	Kiva #3	1.6×10^{-5}	44	Plutonium release from irradiation experiment at the Skua reactor
RAD-15A	03-29	CMR	3.6×10^{-5}	12	Fire in single laboratory
RAD-15B	03-29	CMR	3.2×10^{-5}	220	Fire in entire building wing
RAD-16	03-29	CMR	3.5×10^{-6}	2	Aircraft crash

Notes: mrem = millirem; RANT = Radioactive Assay and Nondestructive Test; CMR = Chemistry and Metallurgy Research; TSTA = Tritium Systems Test Assembly; WCRR = Waste Characterization, Reduction, and Repackaging; TWISP = Transuranic Waste Inspectable Storage Project

including formaldehyde from the Health Research Laboratory (Building 43-01) and chlorine from the chlorinating station within the Los Alamos townsite (Building 00-1109). As discussed, earthquakes would have no estimated chemical consequences at TA 74. The most severe postulated earthquake, however, would release significant quantities of radioactive materials from several buildings, especially from the Chemistry and Metallurgy Research (CMR) Building (Building 03-29). Radiological consequences are estimated to result in a maximum dose of approximately 8 Roentgen equivalent man (rem) at the tract.

The postulated site wildfire scenario would burn about 8,000 acres (3,240 hectares) within LANL boundaries, or about 30 percent LANL, including most of Mortandad Canyon and parts of Los Alamos and DP Canyons east of TA 21. Chemical releases would be less severe than in the earthquake scenarios. The largest quantities of radioactive materials would be released from the transuranic (TRU) waste storage domes at Area G. The maximum dose at TA 74 is estimated to be about 0.1 rem. Such

a wildfire has an estimated frequency of 0.1 per year, or once every 10 years.

Because there are no residents and few public workers at the tract, estimated tract collective dose and estimated excess LCF are both zero for all five natural event accident scenarios.

13.1.13 Environmental Justice

Any disproportionately high and adverse human health or environmental effects on minority or low-income populations that could result from the actions undertaken by DOE are assessed for the 50-mile (80 kilometer) area surrounding LANL, as described in Chapter 3, Section 3.2.1.14.

13.2 No Action Alternative

13.2.1 Land Use

There would be no anticipated change in land use at the TA 74 under the No Action Alternative. The limitations on gated access to the tract would remain. There also would be no anticipated change in adjacent land use as currently defined.

13.2.1.1 Environmental Restoration

Characterization and cleanup of this tract would take place as described in DOE's *Accelerating Cleanup: Paths to Closure* (DOE 1998c) or similar plans. The plan focuses on completing work at as many contaminated sites as possible by the end of fiscal year 2006, although some LANL sites may take longer. The plan includes input from all major field sites, including LANL.

The DOE has developed preliminary information based on current knowledge of contamination at the TA 74 tract, as briefly discussed in the Affected Environment portion of this chapter, Section 13.1.1.1. Information includes estimates of sampling and cleanup costs, decommissioning costs, types and volumes of wastes that would be generated, and length of time required to effect the cleanup. An overview of this preliminary information is set forth in Appendix B of this CT EIS. All information has been extracted from the Environmental Restoration Report (DOE 1999b).

This information indicates that although characterization of the four PRSs would be necessary, no remedial action is likely to be required. Similarly, no cleanup of structures should be required. Some removal of sediments from the canyon systems may be necessary, and as much as 98,880 cubic yards (74,910 cubic meters) of waste may result. Characterization of PRSs is estimated to require 18 months. Cost estimates for remedial action at this parcel range from about $3,683,000 to $215,666,000. These estimates are based on the information currently available for each PRS or structure, and are subject to change if significantly different information is discovered during the course of investigation or remediation. It should be noted that all PRSs, including those at which no remediation is ultimately required, must be characterized, and the results must be reported to the administrative authority. As a consequence, there are almost always costs and wastes associated with PRSs that do not require actual "cleanup." It is possible, however, that the administrative authority could require even more restoration, resulting in greater waste volumes, a longer cleanup duration, and higher costs. It also should be noted that environmental restoration actions and costs represent only a portion of the actions and total costs that may be required for conveyance and transfer of this parcel. These additional costs may be significant.

13.2.2 Transportation

The No Action Alternative would result in no significant changes in traffic volume on State Road 502 or State Road 4 near the tract. It is expected that the future operational performance of these roadways would remain

similar to that of the existing performance, assuming that the future annual growth rate is 1.5 percent as predicted the U.S. Census Bureau.

13.2.3 Infrastructure

The No Action Alternative would result in no changes in the infrastructure or utilities of the TA 74 Tract. The water wells and tank and the State highway maintenance facility on the tract would remain in operation under a special use permit. No appreciable increase in utility usage on the tract would be anticipated. Thus, implementing the No Action Alternative would have no new impacts to utilities and infrastructure.

13.2.4 Noise

Noise levels in the No Action Alternative would be unchanged from those that exist currently (60 to 90 dBA along State Road 502, but less than 20 dBA for most of the tract).

13.2.5 Visual Resources

Under the No Action Alternative, it is expected that the tract would remain unchanged with regard to visual resources. Vegetation, landforms, and views into the site would remain as they are today for all areas of the tract. The Scenic Class II determination for the tract is associated with a relatively high public value for the visual resource, which would be retained under the No Action Alternative.

13.2.6 Socioeconomics

Under the No Action Alternative, there would be no anticipated changes in land use or change in employment on the tract.

13.2.7 Ecological Resources

Under the No Action Alternative, there would be no changes in land use at the TA 74 Tract, as described in Section 13.1.1. Therefore, no impact to ecological resources would be anticipated under the CT EIS No Action Alternative.

13.2.8 Cultural Resources

Under the No Action Alternative, the TA 74 Tract would remain the responsibility of the DOE, and the treatment of the cultural resources present would continue to be subject to Federal laws, regulations, guidelines, executive orders, and Pueblo Accords. Other positive impacts of the No Action Alternative would be the passive preservation of resources due to lack of development and the continued access to TCPs afforded to traditional practitioners in most areas of the tract.

Ongoing adverse impacts from natural processes (such as erosion) on the physical integrity of cultural resources would continue, as well as the potential impacts of fire and seismic events. Also, the potential for impacts from continued recreational activities (such as hiking and horseback riding) access by the public, and the lack of security would continue. These impacts include unintentional destruction or damage of resources, vandalism, unauthorized collection of materials and artifacts, and disturbance of traditional practices and ceremonies. These impacts apply both to resources within the tract and to those located nearby but outside of the tract boundary.

13.2.9 Geology and Soils

Consequences would be limited to existing uses. There would be no anticipated change in land use at the TA 74 Tract as currently described under the No Action Alternative.

13.2.10 Water Resources

Continuation of the current use of this tract by the DOE would be anticipated under this alternative. Consequences to water resources under the No Action Alternative

would be no different than those already existing in the affected environment.

13.2.11 Air Resources

Air quality under the No Action Alternative would be largely unchanged from that of today. Criteria pollutant concentrations would remain within NAAQS. Concentrations of hazardous and other chemical air pollutants would remain below health-based standards. Doses from radioactive pollutants would range from 4.2 millirem at its western edge to less than 1 millirem per year, or less than 10 percent of the EPA standard, along the eastern portions of the tract (DOE 1999c, Chapter 5).

Emissions of greenhouse gases under the No Action Alternative would be small and unchanged from those of today.

13.2.12 Human Health

There are no identifiable human health consequences of implementing the No Action Alternative for the TA 74 Tract. No changes in cancer risk should be expected for this alternative.

13.2.12.1 Chemical Accidents

Accident assessment would be the same as discussed in the Affected Environment section of this chapter. For all postulated accidents, chemical concentrations in the air plume released by potential chemical accidents would be below both ERPG-3 (life-threatening) and ERPG-2 (serious health effects) by the time any air plume reached TA 74, even under adverse weather dispersion conditions. Accordingly, chemical accidents would have no estimated public health consequences at the tract.

13.2.12.2 Radiological Accidents

Accident assessment would be the same as discussed in the Affected Environment section of this chapter. MEI doses would be greater than 500 millirem for 2 of 13 scenarios postulated in the LANL SWEIS. The estimated tract collective dose and estimated excess LCF would both be zero.

13.2.12.3 Natural Event Accidents

Accident assessment would be the same as discussed in the Affected Environment section of this chapter. Neither the wildfire nor any of the earthquakes would have chemical consequences, even under adverse weather dispersion conditions. The MEI dose resulting from the postulated wildfire would be about 0.1 rem; the maximum dose from the most severe earthquake would be approximately 8 rem. Because there would be no residents and few workers at the tract, estimated tract collective dose and estimated excess LCF would both be zero for all five natural event accident scenarios.

13.2.13 Environmental Justice

For environmental justice impacts to occur, there must be high and adverse human health or environmental impacts that disproportionately affect minority or low-income populations. The human health analyses estimate that air emissions and hazardous chemical and radiological releases from normal LANL operations, which would continue under the No Action Alternative, would be expected to be within regulatory limits and that no excess LCFs would likely result. The human health analyses also indicate that radiological releases from accidents at LANL would not result in disproportionate adverse human health or environmental impacts. Therefore, such accidents would not have disproportionately high and adverse impacts on minority or low-income populations.

The analyses also indicate that socioeconomic changes from implementing the No Action Alternative would not lead to environmental justice impacts. Employment

and expenditures would remain unchanged from the baseline.

13.3 Proposed Action Alternative

There are no DOE facilities or activities on this tract that would have to be relocated or otherwise affected by the proposed disposition of this tract. Under the Proposed Action Alternative, the State highway maintenance facility special use permit would transfer to the new owner, and the facility would remain operational, at least for the duration of the current permit agreement. Therefore, there would be no direct consequences of the transfer of ownership of the tract other than those associated with potential loss of Federal protection of ecological and cultural resources (see Sections 13.3.7 and 13.3.8 respectively).

Indirect consequences would be anticipated from the subsequent uses of the tract contemplated by the receiving party or parties. The contemplated uses and the associated consequences are discussed in the following sections. Where the impacts from the two contemplated uses differ, they are broken out and discussed separately.

13.3.1 Land Use

13.3.1.1 Description of Contemplated Uses

Land uses proposed for the TA 74 Tract include cultural preservation and natural areas and utilities. The following paragraphs provide an overview of each of these scenarios.

Table 13.3.1.1-1 and Table 13.3.1.1-2 summarize the attributes of each of these potential scenarios.

Cultural Preservation Land Use Scenario

Land use under this scenario would be dominated by cultural practices and activities necessary to meet continuing stewardship needs. In order to ensure future preservation of resources at the tract, future use of the tract for hiking, horseback riding, or other recreational use by members of the general public would be eliminated.

Table 13.3.1.1-1. Attributes of Future Land Use for the TA 74 Tract Under the Cultural Preservation Land Use Scenario

CULTURAL PRESERVATION LAND USE
• Entire tract would be held in cultural preservation. • Land use would be dominated by cultural practices and activities necessary to meet continuing stewardship needs. • Future use of the tract for hiking, horseback riding, or other recreation by members of the general public would be eliminated.

Table 13.3.1.1-2. Attributes of Future Land Use for the TA 74 Tract Under the Natural Areas and Utilities Land Use Scenario

NATURAL AREAS AND UTILITIES LAND USE
• Entire tract would be held as a natural area and "passively" managed. • Although the site would remain primarily undeveloped, some land at the tract would be used for additions to or improvements of utilities such as well construction, enlargement of sewage treatment facilities (currently adjacent to the site), utility corridors, and roadways. • Access to the majority of the tract by the general public would be unrestricted.

Natural Areas and Utilities Land Use Scenario

Land use under this scenario would maintain the tract for use as a natural area. The site would be passively managed, remaining primarily undeveloped. The general public would have unrestricted access to the majority of the tract for recreational purposes. Some of the land would be used for additions to or improvements of utilities such as well construction, the enlargement or replacement of sewage treatment facilities (currently adjacent to the tract), utility corridors, and roadways.

13.3.1.2 Environmental Consequences of the Contemplated Uses

Cultural Preservation Land Use Scenario

There would be some anticipated direct impacts resulting from changes to access for the tract under the cultural preservation scenario. Activities associated with the State highway maintenance facility would likely be excluded under this scenario, as would other access (for example, USFS, the Bayo Wastewater Treatment Plant) currently available via the main road.

The State highway maintenance facility would either require relocation or a negotiated agreement. An easement could be negotiated between the USFS and the land owner to accommodate continued access for resource and emergency management purposes. Alternative access to the Bayo Wastewater Treatment Plant already exists. Although the change in access to the tract would be inconvenient and require additional coordination and/or contingency planning by Federal, State, and local personnel, impacts associated with the change in access would be minor.

Indirect impacts associated with the land use proposed under the cultural preservation scenario also would result in the loss of access to the tract for recreational purposes; therefore, recreational opportunities on the tract would be lost. However, access into the site via the gated main road is already restricted, limiting the extent of recreational use. Although the loss of the remaining access to the tract would be viewed as an adverse impact, when considered within the context of existing limitations it would be a minor impact.

Natural Areas and Utilities Land Use Scenario

There also would be some change to land use under the natural areas and utilities scenario. Some degree of land disturbance related to new construction or improvement of utilities, utility corridors, and roadways would occur. However, any impacts associated with the development of utilities, utility corridors, and roads would be temporary in nature and likely result in only minimal local impacts.

The degree of land disturbance or habitat loss from expansion of the existing sewage treatment facility would be design dependent. No major impacts would be expected to occur. Access to the tract likely would be improved under this scenario and would be beneficial to recreational land uses.

13.3.1.3 Environmental Restoration

No additional environmental restoration actions would be required under the Proposed Action Alternative because restoration activities must occur before the tract would be considered suitable for conveyance or transfer.

13.3.2 Transportation

13.3.2.1 Environmental Consequences of the Contemplated Uses

The cultural preservation land use scenario and the natural areas, transportation, and utilities land use scenario would both result in transportation system impacts similar to the No Action Alternative. This land use

scenario as currently defined would, in large part, result in the continuation of existing transportation conditions. The possible construction of new roads to improve access to utilities on the tract would have no impact on traffic circulation in the area. Therefore, it would be expected that the future operational performance of State Road 502 and State Road 4 would remain similar to that of the existing performance, assuming that the future annual growth rate is 1.5 percent as predicted the U.S. Census Bureau.

13.3.3 Infrastructure

13.3.3.1 Environmental Consequences of the Contemplated Uses

Cultural Preservation Land Use Scenario

Under this land use scenario, no change would be anticipated that would affect existing utilities and infrastructure. Easements for continued use of utilities would likely continue. No direct or indirect consequences would be anticipated. However, use of the existing road through the tract for access to the wastewater treatment plant may cease.

Natural Areas and Utilities Land Use Scenario

Under this land use scenario, most of the tract would be maintained as a natural area. Some of the land, however, could be used for additions or improvements to utilities, such as well construction, the construction of sewage treatment facilities (discussed previously in this chapter), or utility corridors or roadways. These additions or improvements would result in soil disturbance. Refer to Section 13.3.9 for more details on soil disturbance related to this land use scenario. Otherwise, improvements to the utilities are considered as positive impacts to the area's utilities and infrastructure because they will improve the existing capacity.

13.3.4 Noise

13.3.4.1 Environmental Consequences of the Contemplated Uses

Cultural Preservation Land Use Scenario

Under the contemplated cultural preservation land use scenario, noise levels would remain at current levels. Ambient noises along the southern edge of the tract, which parallels State Road 502, would remain at an estimated 60 to 90 dBA. However, for the remaining 90 percent-plus of the tract, ambient noise levels would remain at estimated levels of 10 to 20 dBA (largely undisturbed).

Natural Areas and Utilities Land Use Scenario

Under the natural areas and utilities land use scenario, the area would likely see modest increases in vehicle use and recreational activity, and increases in noise associated with utility and road construction. Daytime ambient noise levels likely would increase due to these uses. Nighttime noises, however, are not likely to be significantly different from the solitude that currently exists over much of the tract.

13.3.5 Visual Resources

13.3.5.1 Environmental Consequences of the Contemplated Uses

The Scenic Class II determination for the tract is associated with a relatively high public value for the visual resource. The visual resource objective for this scenic class is to retain the existing character of the landscape. Under both contemplated uses, the visual character would be retained, and visual resources would not be impacted.

13.3.6 Socioeconomics

13.3.6.1 Environmental Consequences of the Contemplated Uses

The contemplated uses for this site, largely preservation activity or natural areas, would have little or no impact on employment, income, population, or housing. Modest economic activity may be associated with improvements to utility infrastructure.

13.3.7 Ecological Resources

Direct impacts of the conveyance or transfer itself would be limited to the changes in responsibility for resource protection. Environmental review and protection processes for future activities would not be as rigorous as those which govern DOE activities.

The watershed management approach to natural resource management requires the integration of natural resource management plans across several land management agencies. The current lack of a natural resources management plan by either the County of Los Alamos or the Pueblo of San Ildefonso would impede the development of an integrated, multiagency approach to short- and long-term natural resource management strategies for the Barrancas Canyon, Bayo Canyon, and Pueblo Canyon watersheds.

Transfer of this tract would result in a much less rigorous environmental review and protection process for future improvement to utilities or construction of utility corridors and other related activities. Neither the County of Los Alamos nor the Pueblo of San Ildefonso have regulations that would match the Federal review and protection process such as required under NEPA implementing regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508). The LANL Threatened and Endangered Species Habitat Management Plan would no longer be in effect for this tract area—thereby potentially reducing the protection afforded threatened and endangered species and their potential habitat in TA 74 area.

13.3.7.1 Environmental Consequences of the Contemplated Uses

The TA 74 Tract is the largest tract proposed for disposition and contains approximately 2,715 acres (1,100 hectares) of ponderosa pine forest and pinyon-juniper woodlands, with open shrub, grassland, and wildflower areas.

Cultural Preservation Land Use Scenario

Under the cultural preservation scenario, the potential impacts to natural resources would be similar to the natural area land use scenario. However, wildlife disturbance, both visual and auditory, from recreational use would be diminished. Consequently, habitat for most species would be augmented and improved.

Natural Areas and Utilities Land Use Scenario

Under the natural areas and utilities land use scenario, most land would be passively managed as a natural area. Increased recreation access, especially if it includes motorized recreational vehicles, may cause animals (in some species) to alter their activity and feeding patterns, potentially resulting in increased stress, decreased reproduction, or the temporary or permanent abandonment of the affected area. Motorized recreational vehicles could result in further habitat degradation due to noise, an increase in the number of trails, and increased erosion. Foraging habitat is present within this land tract for American peregrine falcon, bald eagle, and Mexican spotted owl and contains AEIs for the American peregrine falcon (including potential nest sites) and Mexican spotted owl (LANL 1998b). The area contains overlapping Mexican spotted owl core and buffer habitat for the Los Alamos Canyon (18 acres [7 hectares] of buffer habitat) and Pueblo Canyon (16 acres [6 hectares] and

31 acres [13 hectares] of core and buffer habitat respectively) AEIs. Pueblo Canyon AEI habitat for the American peregrine falcon consists of 808 acres (327 hectares) of core habitat and 392 acres (159 hectares) of buffer habitat (PC 1999d). Increased recreation could affect these species' use of this land tract. Improvement to utilities or new corridors would be expected to have minor and short-term consequences to the wildlife of the area.

13.3.8 Cultural Resources

Direct impacts of the conveyance and transfer itself would result from the transfer of known and unidentified cultural resources out of the responsibility and protection of the DOE.

First, under the Criteria of Adverse Effect (36 CFR 800.5(a)(1)), the transfer, lease, or sale of NRHP-eligible cultural resources out of Federal control is an adverse effect. Eligible cultural resources are present in the TA 74 Tract and thus could be directly impacted by the Federal action.

Second, the conveyance and transfer of this tract could potentially impact the cultural resources by removing them from future consideration under the *National Historic Preservation Act.*

Third, the disposition of this tract may affect the protection and accessibility to Native American sacred sites and sites needed for the practice of any traditional religion by removing them from consideration under the *Religious Freedom Restoration Act, American Indian Religious Freedom Act,* and Executive Order 13007, "Indian Sacred Sites." Finally, the disposition of this tract would affect the treatment and disposition of any human remains, funerary objects, sacred objects, and objects of cultural patrimony that may be discovered on the tract. This impact would result from removing these items from consideration under the *Native American Graves Protection and Repatriation Act,* or from changing the way this act is applied to these remains and objects. Indirect consequences are discussed in the following sections.

13.3.8.1 Environmental Consequences of the Contemplated Uses

Indirect impacts would be anticipated from the land uses contemplated by the receiving parties for the TA 74 Tract. The two land uses identified for the TA 74 Tract include cultural preservation and natural areas and utilities. This analysis reflects the broad, planning-level impacts anticipated from each contemplated use.

Cultural Preservation Land Use Scenario

Under the cultural preservation scenario, the TA 74 Tract would be used for cultural stewardship needs by the receiving party. Access to these lands by the general public would be restricted to protect culturally important resources. It is anticipated that this scenario would involve little or no construction or development, but cultural preservation uses and users would be defined by the receiving party.

Dedicating the tract to cultural preservation would be anticipated to have a beneficial impact on the cultural resources present. The restriction of access by the general public would be anticipated to help protect the resources from vandalism, unauthorized collection of materials and artifacts, and disturbance of traditional practices and ceremonies. Another beneficial impact would be the passive preservation of resources and continued access to TCPs afforded to traditional practitioners of the receiving party. There also may be potential impacts to some traditional users if general access is precluded or restricted.

Natural Areas and Utilities Land Use Scenario

Under the natural areas and utilities scenario, the tract would be held as an

undeveloped, publicly accessible natural area. The maintenance of natural areas would have the beneficial impact of allowing the passive preservation of cultural resources on the tract by restricting more destructive types of land use. Portions of the tract also would be used for additions or improvements to utilities. It is anticipated that there may be construction and other ground disturbing activities required for maintaining and improving utilities. These activities could result in the physical destruction, damage, or alteration of the cultural resources present.

Resources avoided by construction may become isolated or have their setting disturbed by the introduction of elements out of character with the resource, such as visual and audible intrusions. These activities may cause changes to the presence or integrity of, or access to natural resources utilized by traditional communities for subsistence, religious, or other cultural activities.

The sanctioning of recreational uses would increase the access to and use of this tract by the general public. Increased access could cause possible destruction and damage to resources, vandalism, unauthorized collection of materials and artifacts, and disturbance of traditional practices and ceremonies.

13.3.9 Geology and Soils

13.3.9.1 Environmental Consequences of the Contemplated Uses

Cultural Preservation Land Use Scenario

Under cultural preservation land use scenario, all existing recreational usage would be eliminated. Wildfires would increase soil erosion and transport in surface streams. Little potential exists for seismic impacts.

Natural Areas and Utilities Land Use Scenario

Some degree of land disturbance related to new construction or improvement of utilities and utility corridors would occur. However, any impacts associated with the development of utilities and utility corridors would be temporary in nature and likely only result in minimal loss of lands. The degree of land disturbance or loss from expansion of the existing wastewater treatment facility would be design dependent. Existing or expanded structures would be vulnerable to greater than magnitude 7 seismic events (as measured on the Richter scale) and wildfire episodes. Wildfires would increase soil erosion and transport in surface streams.

13.3.10 Water Resources

13.3.10.1 Environmental Consequences of the Contemplated Uses

Contemplated uses of this tract would not impact surface water or groundwater quantity or quality.

13.3.11 Air Resources

13.3.11.1 Environmental Consequences of the Contemplated Uses

For both contemplated land uses, there would continue to be no emissions of hazardous or radioactive air pollutants. Further, although there could be a slight increase in emissions of criteria pollutants, concentrations would remain well within State and Federal standards. Air quality would remain the same as in the No Action Alternative.

13.3.11.2 Global Climate Change

Under this cultural preservation scenario, the existing State highway maintenance facility may be removed and there would be no sources of carbon dioxide emissions on the tract. Under the other scenario, the highway maintenance facility would remain, and there would continue to be small emissions of carbon dioxide, as in the No Action Alternative.

13.3.12 Human Health

13.3.12.1 Environmental Consequences of the Contemplated Uses

The impacts to human health of both contemplated land uses would be similar to the No Action Alternative. Any onsite radiological or nonradiological contamination would be cleaned up prior to conveyance or transfer. The public could be in closer proximity to LANL but not closer than the offsite MEI with respect to the LANL operations producing the radioactive air emissions. Therefore, radiological doses would be the same as for the No Action Alternative.

13.3.12.2 Chemical Accidents

Accident assessment would be the same as discussed in the No Action Alternative. For all postulated accidents, chemical concentrations in the air plume released by potential chemical accidents would be below both ERPG-3 (life-threatening) and ERPG-2 (serious health effects) by the time air plume reaches TA 74, even under adverse weather dispersion conditions. Accordingly, chemical accidents would have no estimated public consequences at the tract.

13.3.12.3 Radiological Accidents

Accident assessment would be the same as in the No Action Alternative. The MEI doses would be greater than 500 millirem for 3 of 13 scenarios postulated in the LANL SWEIS. The estimated tract collective dose and estimated excess LCF would both be zero.

13.3.12.4 Natural Event Accidents

Accident assessment would be the same as discussed in the No Action Alternative. Neither the wildfire nor any of the earthquake accident scenarios would have chemical consequences, even under adverse weather dispersion conditions. The MEI dose resulting from the postulated wildfire would be less approximately 0.1 rem; the maximum dose from the most severe earthquake would be about 8 rem. Because there is no planned development of this tract, and hence, there would be few workers and no residents, estimated tract collective dose and estimated excess LCF would both be zero for all five natural event accident scenarios.

13.3.13 Environmental Justice

Any disproportionately high and adverse human health or environmental effects on minority or low-income populations that could result from the actions undertaken by the DOE are assessed for the 50-mile (80-kilometer) area surrounding LANL, as described in Chapter 3, Section 3.2.1.14.

For environmental justice impacts to occur, there must be high and adverse human health or environmental impacts that disproportionately affect minority or low-income populations. The human health analyses for the contemplated uses estimate that air emissions and hazardous chemical and radiological releases from normal LANL operations would be expected to be within regulatory limits and that no excess LCFs would likely result. The human health analyses also indicate that radiological releases from LANL-generated accidents would not result in disproportionate adverse human health or environmental impacts. Therefore, such accidents would not have disproportionately high and adverse impacts on minority or low-income populations with regard to implementing the contemplated land uses on the tract.

The analyses also indicate that socioeconomic changes resulting from implementing either of the proposed alternatives would not lead to environmental justice impacts.

The analysis of impacts to cultural resources indicates that TCPs could be present on the tract or in adjacent areas. If

present, TCPs could be impacted by the conveyance or transfer or by subsequent land uses. Consultations to determine the presence of these resources have not been completed, and the degree to which these resources may be impacted has not been ascertained. Impacts to TCPs potentially may cause disproportionately high or adverse effects on minority or low-income communities, but these effects cannot be determined at this point in the consultation process. Legal counsel for the Pueblo of San Ildefonso expressed the opinion that conveyance and use of this tract would result in an environmental justice impact on the Pueblo's population.

13.3.14 Irreversible and Irretrievable Commitment of Resources

This section describes the major irreversible and irretrievable commitments of resources that can be identified at the level of analysis conducted for this CT EIS. A commitment of resources is irreversible when its primary or secondary impacts limit the future options for a resource. An irretrievable commitment refers to the use or consumption of a resource that is neither renewable nor recoverable for use by future generations. The conveyance or transfer of the tract also could result in the loss of certain Federal protections for ecological resources and consideration of these resources in planning future activities on the tract.

The actual conveyance or transfer of the TA 74 Tract would not immediately cause any irreversible or irretrievable commitment of resources. Because only minimal road and utility improvements would be made under the proposed land use scenarios, a very minor irreversible commitment of ecological habitat and potentially cultural resources would occur.

The natural areas, transportation, and utilities land use scenario would cause irretrievable commitments of minor quantities of resources during upgrade of the roads and utilities. These resources include energy expended in the form of electricity and the burning of fossil fuels.

13.3.15 Unavoidable Adverse Environmental Impacts

The actual conveyance or transfer of TA 74 Tract could result in the loss of certain Federal protections for cultural resources on the tract. Loss of these protections could be considered an unavoidable adverse impact to these resources, as new development could result in physical destruction, damage, or alteration of cultural resources on the tract. The conveyance or transfer of the tract also could result in the loss of certain Federal protections for ecological resources and consideration of these resources in planning future activities on the tract.

13.3.16 Relationship Between Local Short-Term Use of the Environment and the Maintenance of Long-Term Productivity

Because there would be virtually no change in the use of this land tract, neither the actual conveyance or transfer nor the future land uses would cause any specific impacts on short-term uses of the environment. Similarly, there would be no noticeable impact to the long-term ecological productivity of the area. Under the cultural preservation land use scenario, the long-term productivity of this land tract could increase slightly due to the restriction on recreational use.